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IS 13348 (1992): Brush, rubber squeezer, with handle [CHD
24: Brushware]



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भारतीय मानक

रबड़ निष्पीडक ब्रुश, हत्थे वाले — विशिष्ट

Indian Standard

BRUSH, RUBBER SQUEEZER, WITH
HANDLE — SPECIFICATION

UDC 648.524

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 3

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Brushware Sectional Committee had been approved by the Chemical Division Council.

Although question may arise from some quarters about the term 'BRUSH' as applied in this specification for the BRUSH RUBBER SQUEEZER for which the name 'MOP' or 'SQUEEGEE' is better suited for the implement as per the usage in brushware industry. Following the age-old trade practice in this country, this specification has been titled as, Brushes, Rubber Squeezer, for a clear cut conception about the kind and type of the tool.

Brushes, rubber squeezer are mainly used to swab, wipe or clear off water or small particles from flat surfaces like floors, platforms, ship decks, etc.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

BRUSH, RUBBER SQUEEZER, WITH HANDLE — SPECIFICATION

1 SCOPE

This standard prescribes the requirements and the methods of sampling and test for brushes, rubber squeezer.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
723 : 1972	Steel countersunk head wire nails (<i>second revision</i>)
4905 : 1966	Methods for random sampling
5060 : 1969	Glossary of terms used in brushware industry

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 5060 : 1969 and the one given below shall apply.

3.1 Approved Tender Sample

The sample accepted by the indenter or inspection authority as the basis for supply. When a sample is tested and approved by the purchaser or an inspection authority, the results of such tests as will permit the supplier to meet the limits imposed by the specifications for deliveries, shall be made available to the supplier.

4 REQUIREMENTS

4.1 The brushes shall be made from the following materials.

4.1.1 Filling Material

Flexible rubber sheet of 900 mm × 95 mm × 8 mm shall be used. It shall pass the test stipulated in 4.5.

4.1.2 Timber

4.1.2.1 Any of the timber species listed in Annex A shall be used in the manufacture of wooden portion of the brush.

4.1.2.2 The timber shall be reasonably straight grained and well seasoned to a moisture content not exceeding 15 percent when tested by moisture meter method. In case of dispute, the oven drying method shall be used (see Annex B).

4.1.2.3 The timber shall be free from brashness, any kind of biological or non-biological deterioration, insect attack, centre heart (pith), knots (except live pin knots), cracks, warp and any other defect which may reduce the life of the brush or affect its utility.

4.1.3 Nails

Six iron nails of 40 mm long and 2.00 mm diameter shall be used to secure the rubber sheet inside the groove of the wooden block (see IS 723 : 1972).

4.1.4 Screws

Four wood screws of 38 mm length and 3.45 mm diameter for fixing the mild steel reinforcing bars with the brush heads.

4.1.5 Reinforcing Bars

Two reinforcing flat bars of mild steel of 375 mm × 12 mm × 5 mm and pre-bored. Tight screwing the rods with the brush heads and handles reinforce the strength of the whole brush.

4.1.6 Handle

Strong and sturdy bamboo handle of length 1 500 to 1 600 mm and of diameter of not less than 25 mm at the root end for tight fixing inside the hole provided for the purpose.

4.2 Manufacture

4.2.1 The brush shall conform to the shape and design as shown in Fig. 1.

4.2.2 One edge of the rubber sheet in lengthwise shall be pushed inside the channel of the wooden block to entirely cover the groove and shall be firmly nailed with 6 nails at equal space of the wooden stock. The gripping for the rubber sheet shall be 20 mm deep.

4.2.2.1 The bamboo handle shall be tightly fitted in the hole at the central position of the round-back of the wooden stock and as shown in Fig. 1.

4.2.2.2 The reinforcing mild steel bars shall be fitted at both ends of the rounded wooden back with 4 Nos. of screws. The other ends of both the reinforcing bars shall be rigidly screwed with the bamboo handle with one nut and bolt and in a position and direction as shown in Fig. 1.

4.2.2.3 The protrusion of the rubber sheet from the base of the wooden stock shall be 75 mm.

4.2.3 The working edge of the rubber sheet shall be even, straight faced and shall be of uniform width of 75 mm all over the blade

when measured from the surface of the wooden block.

4.3 Finish and Workmanship

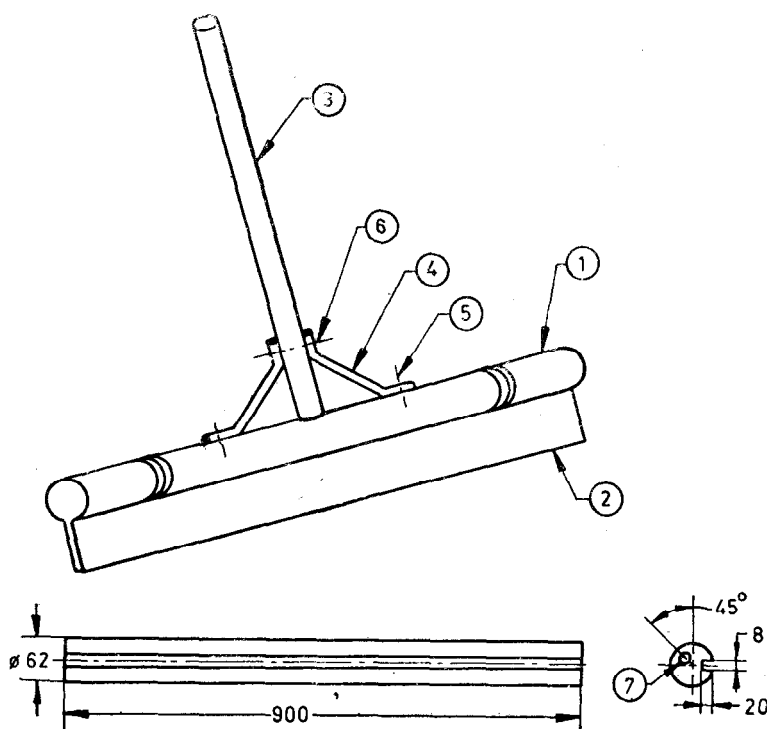
The wooden stock shall be neatly and smoothly finished all over the body. In respect of shape and pattern it shall conform to the approved samples.

The bamboo handle shall be smoothly finished and suitably lacquered, varnished or painted, as may be agreed upon by the purchaser and the supplier.

4.4 Dimensions and Tolerances

4.4.1 Dimensions

The brushes shall conform to the dimensions given in Fig. 1.



Sl No.	Description	No. Used
1.	900 × 60 D wooden roller	1
2.	900 × 95 × 8 rubber sheet	1
3.	1500 × 25 bamboo handle	1
4.	375 × 12 × 5 M. S. BAR	2
5.	38 size woods crew 3.45 dia	1
6.	50 × 6 dia belt and nut	1+1
7.	250 dia × 38 bore	1

All dimensions in millimetres.

FIG. 1 RUBBER SQUEEZER BRUSH WITH HANDLE

4.4.2 Tolerances

The tolerances on the dimensions shall be as follows:

Dimension mm	Tolerance mm
Up to 15	± 1.0
Over 15 but below 40	± 2.0
40 and above	± 3.0

4.5 Test

4.5.1 Pull Test

The rubber sheet shall remain unmovable inside the wooden block and shall not come out of it when subjected to a straight push and pull with thumb and finger grip.

4.5.2 Flexibility Test

The rubber sheet when bent at an angle of 180° shall show no crack, split or break in the sheet. And on releasing the pressure while in bent, the sheet shall assume its normal shape.

5 PACKING AND MARKING

5.1 Packing

The brushes shall be packed in packages as agreed to between the indenter or the inspection authority and the supplier.

5.2 Marking

Unless otherwise agreed to between the indenter or inspection authority and the supplier, each brush shall be legibly and indelibly marked with the following:

- Indication of the source of manufacture, and
- Month and year of manufacture.

6 SAMPLING

The method of drawing representative samples of brushes and criteria for conformity shall be as prescribed in Annex C.

ANNEX A

(Clause 4.1.2.1)

SPECIES OF TIMBER FOR MANUFACTURE OF WOODEN PORTION OF BRUSHES, RUBBER SQUEEZER

A-1 The list of species of timber approved for the manufacture of wooden portion of brushes, squeezer, is given below:

Trade Name		Botanical Origin
Roman	Devnagari	
aini	ऐनी	<i>Artocarpus hirsuta</i> Lamk., fam. Moraceae
banati	बनाती	<i>Lophopetalum wightianum</i> Arn. fam. Celastraceae
bijasal	बीजसाल	<i>Pterocarpus marsupium</i> Roxb., fam. Leguminosae
champak	चम्पक	<i>Michelia champaca</i> Linn., fam. Mangoliaceae
chickrassi	चिकरासी	<i>Chukrasia tabularis</i> A. Juss., fam. Maliaceae
dhaman	धामन	<i>Grewia tiliifolia</i> Vahl., fam. Tiliaceae
gamari (gumhar)	गमारी (गुम्हार)	<i>Gmelina arborea</i> Roxb., fam. Verbenaceae
haldu	हलदु	<i>Adina cordifolia</i> Hook. f., fam. Rubiaceae
kaim	कैम	<i>Mitragyna parvifolia</i> Roxb. Korth., syn. <i>Stephegyne parvifolia</i> Korth., fam. Rubiaceae
kanju	कांजू	<i>Holoptelea integrifolia</i> Planch., fam. Ulmaceae
kathal	कटहल	<i>Artocarpus heterophyllus</i> Lamk.; syn. <i>A. integrifolia</i> Linn., f., fam. Moraceae
kuthan	कुथन	<i>Hymenodictyon excelsum</i> Wall., fam. Rubiaceae
lambapatti	लम्बापत्ति	<i>Planchonella longipetiolatum</i> H. J. La., syn. <i>Sideroxylon longipetiolatum</i> , King & Prain, fam. Sapotaceae
aam (mango)	आम	<i>Mangifera indica</i> Linn., f., fam. Anacardiaceae
nim-chameli	नीम-चमेली	<i>Millingtonia hortensis</i> Linn., f., fam. Bignoniaceae
kodapalai choupaini (piney)	कोदपलाई चौपैनी (पिनी)	<i>Kingiodendron pinnatum</i> Harms., syn. <i>Hardwickia pinnata</i> Roxb., fam. Leguminosae
toon	तून	<i>Toona ciliata</i> Roem., syn. <i>Cedrela toona</i> Roxb., fam. Meliaceae

ANNEX B

(Clause 4.1.2.2)

**DETERMINATION OF MOISTURE CONTENT OF TIMBER USED
IN BRUSHES, RUBBER SQUEEZER****B-1 TEST SPECIMEN**

B-1.1 The entire block used in brushes, rubber squeezer, may form the test specimen for the determination of moisture content or a coupon cut from the test specimen may, as well, be used for moisture content determination. When for any reason additional determination of moisture content is required, separate samples shall be prepared from the sample material as is used in preparing the test specimens. Smaller specimens may be used when deemed necessary. The test shall be carried out immediately after cutting the specimen.

B-2 PROCEDURE

B-2.1 Weigh accurately each test specimen.

This specimen shall then be dried in a ventilated oven at $105^{\circ} \pm 2^{\circ}\text{C}$ until the mass becomes constant between two successive weighings made at an interval of not less than one hour.

B-3 CALCULATION

B-3.1 Moisture content, percent by mass of oven-dry mass
$$= 100 \times \frac{W_1 - W_0}{W_0}$$

where

W_1 = initial mass in g, of the test specimen; and

W_0 = oven-dry mass, in g, of the test specimen.

ANNEX C

(Clause 6)

**SAMPLING AND CRITERIA FOR CONFORMITY OF
BRUSHES, RUBBER SQUEEZER****C-1 SAMPLES FOR APPROVAL**

C-1.1 The supplier shall submit three identical brushes corresponding to each type and size for approval.

C-1.2 The purchaser or inspection authority, as applicable, shall retain one of the three samples.

C-2 SCALE OF SAMPLING**C-2.1 Lot**

In any consignment all rubber squeezer brushes of the same size, construction and method of manufacture shall be grouped to constitute a lot.

C-2.2 Each lot shall be tested separately for its conformity to the requirements of this specification. The number of brushes to be selected for this purpose from each lot depends on the

size of the lot and shall be in accordance with Table 1.

Table 1 Scale of Sampling and Permissible Number of Defectives

(Clauses C-2.2 and C-3.1)

Lot Size	For Visual and Dimensional Tests	
	No. of Brushes to be Selected	Permissible Number of Defectives
(1)	(2)	(3)
0 to 25	3	0
26 to 50	5	0
51 to 100	8	1
101 to 300	13	1
301 and above	20	2

NOTE — The plan in this table provides for the acceptance of a lot containing not more than 4 per cent defective brushes most of the times.

C-2.3 The brushes shall be selected at random in accordance with IS 4905 : 1966. To ensure this, a random number table may be used. Alternatively, the following procedure may be adopted :

Arrange the rubber squeezer brushes in some order, count them as 1, 2, ..., up to r and so on where r is the integral part of N/n (N being the lot size and n being the sample size). Repeating this process, every r th brush shall be withdrawn to constitute the sample.

C-3 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

C-3.1 All the brushes selected according to C-2.2 shall be examined for workmanship, quality of filling material, dimensions and other constructional details. The number of defective

brushes in the sample shall not exceed the corresponding permissible number of defectives given in col 3 of Table 1 if the lot is to be accepted in respect of these requirements.

C-3.2 For knock back or pull test and flexibility tests, two brushes from the sample shall be tested individually. One test shall be made for assessing the average mass of the filling material.

C-3.3 One test per 10 brushes or part thereof shall be conducted for the determination of moisture content of timber in the case of rubber squeezer brushes.

C-3.4 There shall be no failure in the tests conducted in C-3.2 and C-3.3 if the lot is to be finally accepted as satisfactory.

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